DOCUMENT RESUME

ED 035 610 SP 003 528

TITLE Summary Report of the Wisconsin Elementary Teacher Education Project. Feasibility Study of Wisconsin Elementary Teacher Education Project.

INSTITUTION Wisconsin Univ., Madison.

PUB DATE May 69

NOTE 45p.

EDRS PRICE EDRS Price MF-$0.25 HC-$2.35

DESCRIPTORS College Programs, *Educational Specifications, *Elementary School Teachers, Individualized Instruction, *Models, *Preservice Education, Student Teacher Relationship, *Teacher Education Curriculum

ABSTRACT

The purpose of this document is to provide a summary of the four-volume final report of the Wisconsin Elementary Teacher Education Project (WETEP), which includes position papers and specifications for a model teacher education program projected for the year 1975 and beyond. In addition to summaries of the purpose, background, organizational components, and special features of the project, the document presents a page-length abstract of each of the specifications and position papers developed during the 15-month study. The thirty-one abstracts treat a wide range of topics related to the following areas of concern: "new curricula for the schools, rapidly altering procedures in higher education, continually improving technological resources, innovative approaches which improve the quality of the relationship between student and teacher, and emphases which give continuing hope for effective individualization of instruction." (Complete document available from Supt. of Documents, GPO, Washington, D.C.; FS5.258:58025, $5.75.) (ES)

ED035610

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SUMMARY REPORT*

OF

THE WISCONSIN

ELEMENTARY TEACHER EDUCATION PROJECT

Developed in Conjunction with Project Number 9-0421:

Feasibility Study of Wisconsin Elementary Teacher Education Project

THE UNIVERSITY OF WISCONSIN

May 1969

SP003528

*The complete report is available from the Superintendent of Documents: Order Number FS 5.258: 58025.

PREFACE

The Wisconsin Elementary Teacher Education Project (WETEP) is an inclusive undertaking designed to create new patterns for teacher education and to assemble "The pieces of the educational revolution (which) are lying around unassembled," as John Gardner has said in No Easy Victories. Those pieces include new curricula for the schools, rapidly altering procedures in higher education, continually improving technological resources, innovative approaches which improve the quality of the relationship between student and teacher, and emphases which give continuing hope for effective individualization of instruction.

The Wisconsin Elementary Teacher Education Project was initiated in November, 1967. The present document summarizes the material in a four-volume report which resulted from extensive efforts during the fifteen-month period between that date and March 3, 1969. This four-volume report includes position papers and specifications for the elementary teacher education program on this campus in the year 1975 and beyond. While the complete four-volume work is not available for general distribution at this writing, it is anticipated that it will become generally available at some future time. In the interim, it is hoped that the abstracts of the Element Specifications and of the Position Papers contained in this document will serve to convey the spirit of WETEP.

Ultimately the success of WETEP is dependent upon the quality of scholarship characteristic of the faculty responsible for its development and implementation. The University's Central Administration, the Graduate School, and the School of Education have provided support for the planning of WETEP and faculty members have contributed substantial amounts of time and effort to prepare this report as a first step toward the development of WETEP on this campus. It is on the basis of this first step that teacher education students, our colleagues on campus and in the schools, our partners in RCA and ETS, the administration of the University of Wisconsin, and representatives of various funding agencies will be able to make those judgements which it is hoped will provide for the continued improvement of teacher education through the Wisconsin Elementary Teacher Education Project.

M. Vere DeVault
Director

SUMMARY*

I. Purposes of the Wisconsin Elementary Teacher Education Project

The Wisconsin Elementary Teacher Education Project (WETEP) is designed to provide improved elementary education through individualization of learning and instruction. Research continues to indicate that the elementary school is the most potent instrument for effecting social change. The urgent national priorities of eliminating poverty and social strife require that the perceptions and competencies of elementary teachers be improved in the years ahead. The proposed program incorporates many fundamental concepts in elementary education modified by experimental innovations. First, WETEP is intended to improve the quantity and quality of personal contact between faculty and students. The substance of the program is found in the small seminars and in the instructional conferences between faculty and individual students. Second, WETEP is designed to utilize modern technology (a) to provide students immediate access to information, (b) to provide improved communication between campus instructional activities and laboratory/clinical activities in the schools, (c) to make available to students a greater variety of learning experiences than has been previously possible, and (d) to provide for an instructional management system which organizes and transmits data relative to student progress. Third, WETEP includes a cybernetic systems model designed to interrelate specified behavioral objectives with effective methods of achieving them. Finally, the project is planned to involve faculty effectively in program development and in maintenance and in improvement of the WETEP system.

The WETEP concept is a logical extension of the teacher education philosophy developed on this campus since the inauguration of model exemplary programs in elementary teacher education in 1948. WETEP is designed to incorporate the many facets of intellectual challenge which typify scholarly teaching and research at the University of Wisconsin.

1. The major purpose of WETEP is to develop a center for teacher education which will model continually the best possible individually oriented elementary teacher education program.

2. WETEP is designed to investigate the ways in which individual teacher-student contacts can be increased by time made available through an appropriate and effective utilization of the new technology.

3. WETEP is designed to continually prepare teachers for roles in schools with varying educational responsibilities and with children of varied cultural backgrounds.

4. WETEP is designed to facilitate closer working relationships between schools and universities both in teacher education responsibilities and in public school curriculum development activities.

*Pages 1 through 43 of the summary prepared by the University of Wisconsin.

5. WETEP is designed to provide a university environment in which college and university faculty re-education facilities may be developed and utilized by teacher education faculties throughout the country.

6. WETEP is designed to provide a center for the development and evaluation of teacher education materials and facilities.

7. WETEP is designed to provide a research facility oriented to the study of a wide spectrum of problems in teacher education.

8. WETEP is designed to provide a center for graduate studies in teacher education.

II. Description of the Model Wisconsin Elementary Teacher Education Project

This section of the proposal includes a brief history of the elementary teacher education program at the University of Wisconsin, and a description of the model Wisconsin Elementary Teacher Education Project. Special features of the program are then identified and discussed with references to specific appendices where more detailed information may be found.

A. Historical Background

Elementary teacher education is a relatively new program at the University of Wisconsin. The late Professor Virgil E. Herrick came to this campus from the University of Chicago in 1948 for the expressed purpose of developing a model elementary teacher education program. With that base, elementary teacher education has been a continually evolving experimental program. The initial program which became operational in the early Fifties included an eight-semester sequence which emphasized continual observation and participation activities in local schools. In the late Fifties, the faculty acted to increase the interdisciplinary contributions to the elementary teacher education program and the faculty of the School of Education was expanded to include all professors who taught courses taken by teacher education candidates. School of Education faculty committees included both budgeted and non-budgeted faculty of the School of Education. During the Sixties, through the Wisconsin Improvement Program, the faculty has directed its attention to the development of the intern-in-team concept of clinical experiences and to certification by examination procedures for professional education courses.

Thus, after twenty years of elementary teacher education at the University of Wisconsin, the program may be characterized as (1) an experimental effort, (2) one which emphasizes continuous clinical experience, (3) one which shares responsibility for the program with an interdisciplinary faculty in many departments, (4) one which utilizes an internship in schools organized for team teaching. WETEP follows as a natural next step in the evolution of elementary teacher education at Wisconsin. As plans developed,

twenty-eight school districts in Wisconsin and Illinois, and the Wisconsin State Department of Public Instruction became active participants in the development of WETEP and continue as partners with the University of Wisconsin

B. Organization of WETEP Components and Elements

A cybernetic system was designed to portray the interrelationships of the integral parts of WETEP (Figure 1). The system contains four basic components: 1) an input component which provides for the selection and entrance of appropriate teacher education candidates; 2) an operations component which provides for the teaching-learning experiences of the students; 3) an output component which consists of the intern experience and the full-time teaching career for the WETEP certified teacher; and 4) a feedback component which supplies the control and guidance of students progressing through the system and for the continual assessment of the system itself.[1]

The basic content of an elementary teacher education program includes introductory studies in education, study in principles of human growth and learning, and in field or subject areas. WETEP meets these needs through the following carefully structured elements:

Orientation	Art Education
Educational Psychology	Health Education
Communications	Safety Education
Mathematics Education	Music Education
Science Education	Physical Education
Social Studies	Curriculum and Instruction

While WETEP incorporates current and projected individual and social needs in each of the above elements, additional areas have been chosen to receive explicit attention because of high national priorities. The number and nature of these elements may be expected to change in the future as social needs dictate. Those presently included in WETEP are:

Leisure Education
Guidance Education
Media and Technology Education
Early Childhood Education
Culturally Diverse
Special Education

Figure 2 illustrates how three of the WETEP components are designed to include these elements. Most of the elements have been developed by the WETEP staff.[2] The elements represented by unshaded

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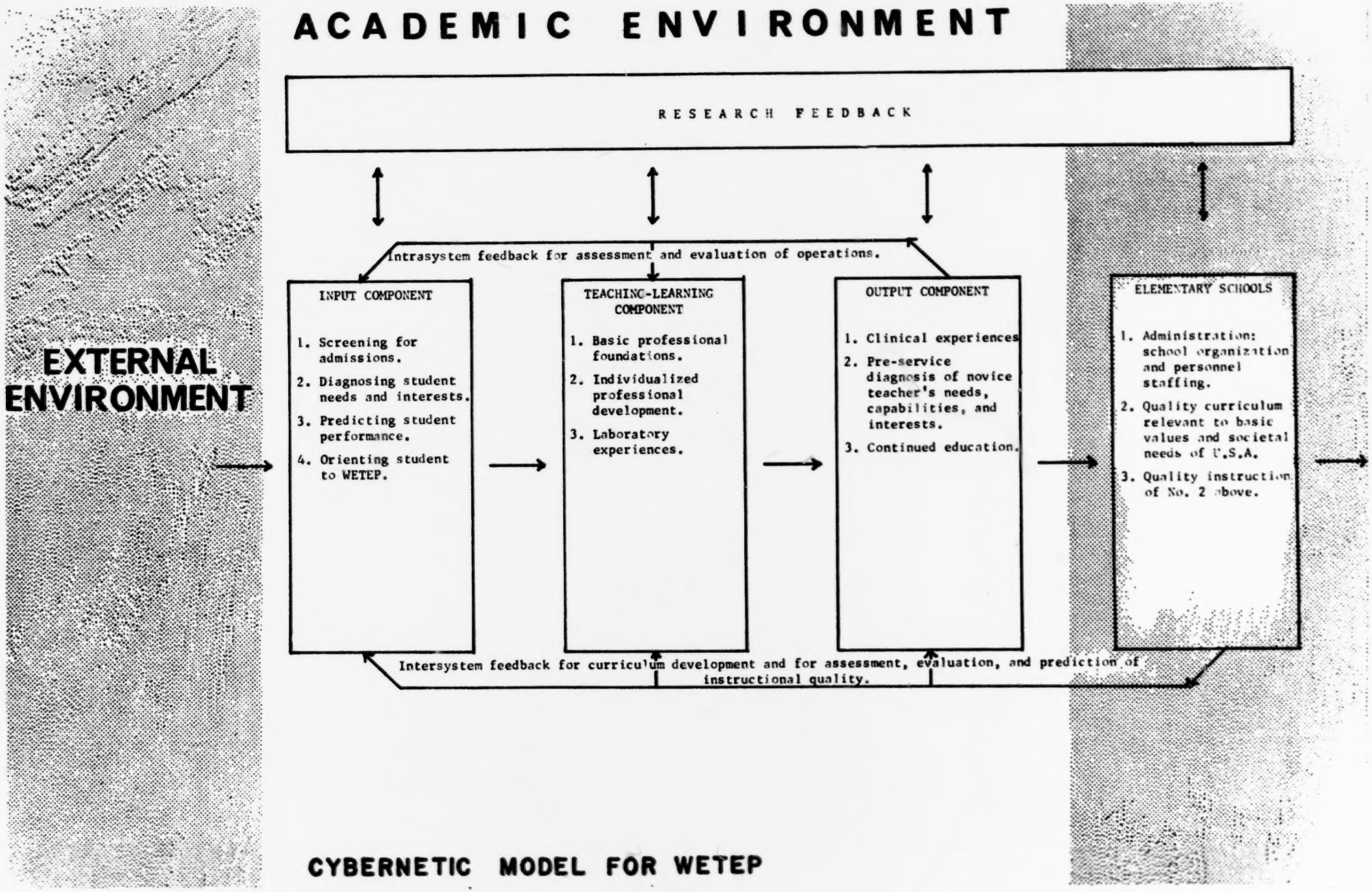
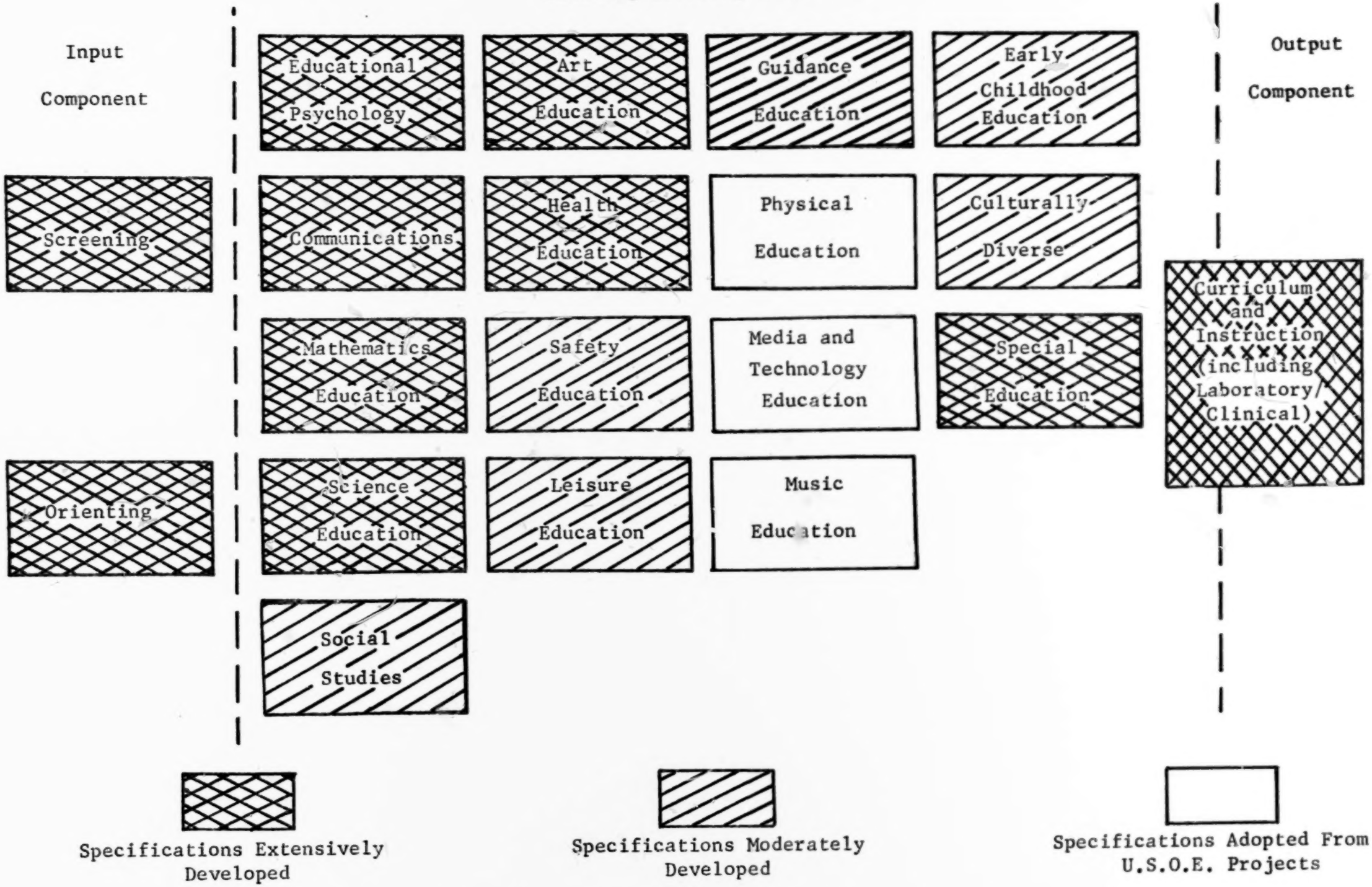
[1]Albert H. Yee, "A Cybernetic System for WETEP: A Model Design for the Preparation of Teachers," abstracted on p. 16. Also in Journal of Research and Development, in press.

[2]Elements are described in summary form in the abstracts on pages 25 to 42.


ACADEMIC ENVIRONMENT
EXTERNAL ENVIRONMENT
RESEARCH FEEDBACK
Intrasystem feedback for assessment and evaluation of operations.
INPUT COMPONENT
1. Screening for admissions.
2. Diagnosing student needs and interests.
3. Predicting student performance.
4. Orienting student to WETEP.
TEACHING-LEARNING COMPONENT
1. Basic professional foundations.
2. Individualized professional development.
3. Laboratory experiences.
OUTPUT COMPONENT
1. Clinical experiences
2. Pre-service diagnosis of novice teacher's needs, capabilities, and interests.
3. Continued education.
ELEMENTARY SCHOOLS
1. Administration: school organization and personnel staffing.
2. Quality curriculum relevant to basic values and societal needs of U.S.A.
3. Quality instruction of No. 2 above.
Intersystem feedback for curriculum development and for assessment, evaluation, and prediction of instructional quality.

CYBERNETIC MODEL FOR WETEP

FIGURE 1



PATTERN OF DEVELOPMENT OF SPECIFICATIONS FOR WETEP ELEMENTS

FIGURE 2

regions in Figure 2 are those selected from the nine USOE Teacher Education Projects. The WETEP staff has added substantially to the material in adapting ideas from the reports on Physical Education and on Media and Technology. The selections from these reports, however, add substantially to the planning previously completed as a part of WETEP. In the case of Music, essentially all of the content for the element comes from the Michigan State USOE project, although it has been re-organized to accommodate the WETEP systems approach.

C. Special Features of WETEP

Based upon social projections for the 1970's, the original request for proposals (October, 1967) from the U. S. Office of Education indicated a preference for specifications which emphasized individualization of instruction, appropriate utilization of technology including media sources and computer management facilities, systems approaches to instruction, early childhood education and the education of the culturally disadvantaged, and university-wide participation in elementary teacher education. The following discussion of special features of WETEP is designed to call attention to those factors which represent the uniqueness of the WETEP specifications and to the relative importance attributed to various emphases in the development of these specifications.

Special Feature No. 1 -- Personalized Teacher Education. The single most important feature of WETEP is the personalized nature of the program. WETEP is to be personalized in two dimensions. First, WETEP is designed to increase both the quantity and the quality of individual, personal contact between faculty and students. This personalized contact will take place in small seminars and in individual conferences. The second dimension in which WETEP personalizes teacher education is one of self-selection and self-pacing of students through the program. Students will have maximum choice in determining the special emphases of their preparation. They will have much choice in the sequence of activities in which they participate and they will have a variety of alternative instructional modes from which to choose. In making choices students will be helped to understand themselves, the learning choices they have made, and the implications of these choices in their continuing work with elementary school pupils. Improvement in self-understanding is at the core of the personalized and personalizing teacher (Guidance Element, abstracted p. 36).

Special Feature No. 2 -- The Systems Approach. A comprehensive systems approach to instruction has been developed and is described in the position paper, "A Cybernetic System for WETEP: A Model Design

for the Preparation of Teachers" (abstracted p. 16) and is represented in each of several element reports (see especially the element abstracts for Screening, p. 25; Science, p. 29; and Special Education, p. 42). The system has been developed to include an extensive data bank which will provide for the control of the presentation of instructional modules, for the management of assessment information for individual students, and for the management and control of feedback information concerning the effectiveness of the many parts of the WETEP program.

Special Feature No. 3 -- The Assessment Program. Already underway is a theoretical study in the development of computer-assisted testing (abstracted, p. 22). In recent years it has become increasingly obvious that the testing procedures presently in use in our schools are inadequate to serve the purposes of a technologically oriented systems approach to instruction.

Norm reference testing procedures must give way to criterion reference testing if we are to appropriately provide for continuous evaluation of individual progress. A WETEP staff member is the Principal Investigator of a project in the Wisconsin Research and Development Center in which criterion reference testing in relation to computer management of instruction is being developed for a mathematics program at the elementary school level. The results of this project will have many implications for the assessment procedures to be used in WETEP.

Special Feature No. 4 -- Cooperating Agencies. Since the inception of WETEP, it has been recognized that resources outside the University will be required if the program is to be effectively planned, developed and implemented. Local school cooperation has been both extensive and intensive. The position paper, "The Role of the School," (abstracted p. 24) outlines three ways in which local schools will be associated with WETEP. A consortium of ten of these schools is being developed as a non-profit corporation, Midwest Individualized Learning Systems, to facilitate curriculum development in the schools to parallel WETEP principles in teacher education.

These ten full-participation schools will also serve as exploratory centers in their respective school systems. Additional ghetto and Indian schools will be identified for participation in WETEP in a variety of roles.

The Wisconsin Department of Public Instruction (DPI) has served continuously as a close partner of the University in all of its endeavors to improve teacher education throughout the state of Wisconsin. From the initial planning meeting for WETEP in November, 1967, DPI representatives have worked closely with the staff assisting particularly with certification patterns and with the roles of schools.

Throughout the past year, RCA has been especially close to the planning phases of WETEP. RCA assigned a person to our staff full time from March 1 through November 1, 1968, and remains a close partner in the program providing special assistance with the role of media, computers, and communication systems within WETEP.

Finally, Educational Testing Service, one of the original partners at the time of the request for the funds for the planning phase, continues to provide assistance in a variety of ways. Perhaps the most tangible expression of that support is the fact that the chairman of the WETEP Assessment Committee is working jointly with two members of the Developmental Research Division of ETS in a project for theoretical work in the area of computer-assisted testing (abstracted p. 22). The initial phase of the project is being funded by ETS and the College Entrance Examination Board.

Preliminary explorations have indicated the desirability of a high degree of flexibility in the commitments of the several cooperating agencies rather than rigidly specified contributions of each of the partners in the collaborative effort.

Special Feature No. 5 -- Curriculum Development and In-Service Education. WETEP is designed to provide for the education of teachers from the time of their admission to the professional education program to the time of their retirement. In-service education will be provided both on campus as a part of graduate level work and in WETEP schools. In-service work will also be available via technologically transmitted and controlled instructional modules and through participation in curriculum development projects related to WETEP schools. Schools in Midwest Individualized Learning Systems are committed to the development of school programs which parallel the elementary teacher education program; that is, they are designed to individualize instruction, to emphasize improved teacher-student contact, to utilize a wide variety of media, and to use computer facilities in the control, management and assessment of the instructional system. In-service education will be a continuing aspect of the relation between the schools and the on-campus faculty and facilities.

Special Feature No. 6 -- WETEP as a Feasibility Study. WETEP faculty members recognize the impossibility of specifying in specific terms the nature of an experimental program appropriate for the mid-seventies and beyond. The feedback system and the close working relationship between instruction and development aspects of WETEP provide the basis for a continual series of feasibility studies designed to provide information relative to various alternate approaches to major dimensions of the project. Most important among these dimensions which will be subject to continuous assessment and alteration include 1) the manner in which objectives can be stated to facilitate the instructional goals of WETEP, 2) the role of technology in the individualization of instruction, 3) the manner in which

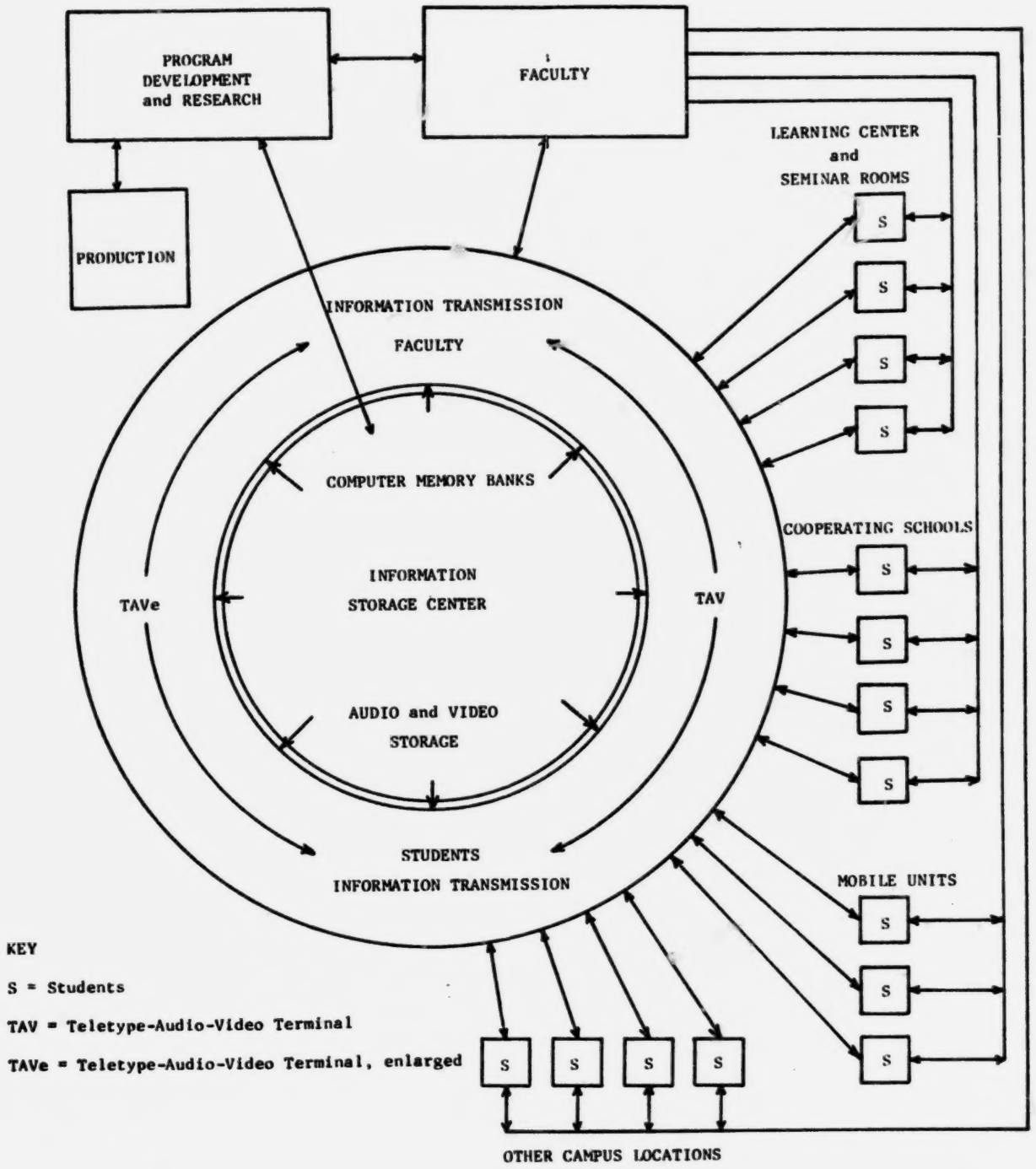
university and business can effectively cooperate in their mutual interests in the improvement of education, 4) the nature of cooperating school relationships which facilitate teacher education and curriculum development, 5) the optimum length of internship activities, 6) the utility of a systems approach to instruction, and 7) the manner in which changing roles for faculty can be identified and implemented in higher education. The economic analysis outlined in the remainder of this proposal will examine the economic implications of these features of WETEP.

It is expected that additional areas in which feasibility study is important will be identified as WETEP unfolds. It is important to indicate here that the WETEP faculty recognizes the improbability that specifications identified at this time will be implemented precisely as described but rather that these specifications provide a point of departure for the development, testing, refining, and implementation aspects of the project.

Special Feature No. 7 -- Space Facilities. Designs for elementary schools of the 1970's are changing to provide for individualization and for the utilization of technology in education, and the design for WETEP must also provide for these special features. Efforts have been underway for several years to provide adequate new facilities for teacher education on the University of Wisconsin campus. These efforts have culminated in a series of events which make it appear that a new building for teacher education will be funded in the 1969-71 biennium. This time schedule allows for the incorporation of the space requirements for WETEP into designs for the new structure. As a part of the planning phase of WETEP a space facilities report (abstracted p. 43) has been prepared and submitted both to the Dean's Office and to the USOE as a part of this proposal.

Never before has a university building on this campus been designed as an outgrowth of a totally new instructional concept. Further, general concern for individualization of instruction at the university level throughout the country makes it possible for WETEP space facilities within a Wisconsin School of Education Building to set the pace for educational facilities on campuses throughout the seventies.

Special Feature No. 8 -- Comprehensive Telecommunications System. A comprehensive in-building and inter-building communication system has been planned and a standardized output terminal configuration has been designed to facilitate communication in all facets of the program (Figure 3). The terminal will transmit both computer and dial-access information output. Standardization in terminal format will optimize the cost effectiveness of the total communications system.



A SCHEMATIC OF THE WETEP TELECOMMUNICATION SYSTEM

FIGURE 3

Special Feature No. 9 -- University Commitment. In November, 1967, that faculty of the University of Wisconsin which assumes major responsibility for the management of instruction in the elementary teacher education program presented to the Dean of the School of Education a four-page statement outlining specific direction to be taken in the development of WETEP. The faculty sought an indication from the Dean's Office that the general nature of the proposal seemed viable for UW teacher education and worthy of planning effort whether or not funding from the USOE was forthcoming. The Dean indicated the support of his office for the program based on two suppositions: first, that the general concept of experimentalism in teacher education was consistent with the history of elementary teacher education on this campus; and second, that the basic tenets of the recommendations were in keeping with societal trends and needs in education and upon these trends and needs useful projections into the 1970's could be made. The financial support from the Dean's Office and from other agencies within the University structure provided ample evidence of broad support for the exploration of the WETEP concept. This commitment from various administrative units within the University, coupled with the commitment of faculty to experimentation in elementary teacher education, provides the best basis of assurance for the success of continuing development, implementation, and diffusion phases of WETEP.

Special Feature No. 10 -- Strength of the Elementary Teacher Education Faculty. The faculty of the School of Education at the University is a research faculty which is deeply engrossed in the search for increased understanding about learners and learning, about program development and instruction, about schools and teachers, and about teacher education. The competence of the faculty is represented throughout the proposal. Although it is anticipated that changes in school programs will continue in the next few years, the behavioral objectives and the position papers included with each element represent the deliberations of a faculty which is not only aware of recent developments in school practice but a faculty which has been very much involved in these developments as they have been implemented in the schools. The competence is represented, for instance, in Communications (abstracted p. 27) by the emphasis on integrated language arts and on linguistic approaches to language instruction; in Mathematics (abstracted p. 28) by the emphasis on Inquiry as the focus of instruction, and in Special Education (abstracted p. 42) by the emphasis on the interrelatedness of that program to Educational Psychology and the various methods elements. The position papers and other items in the appendix were prepared essentially by authors as indicated, although each represents the cooperative effort of several WETEP faculty members and has the support of the entire WETEP staff.

The greatest strength of the faculty working within WETEP is represented by their successful insistence on the organization of an experimental teacher education program providing an environment which

integrates research and teaching activities as individual faculty members contribute to the total WETEP structure. While there is a great deal of consistency among elements within the program, this consistency has been maintained with a systems approach which requires a variety of competencies so that each faculty member can determine the nature of his specific contribution to the on-going instructional, development and research activities.

SCHOOLING FOR 1975

Abstract. The dynamic character of the WETEP school of 1975 will result in part from the context of rapidly evolving societal problems in which it exists. These problems of society point emphatically toward the need for personalization of education. To prepare teachers competent to provide such an education is the major purpose of WETEP.

To achieve this purpose, WETEP is designed not only as a vehicle for invention, but also as a means of implementing innovations created to develop an intellectually challenging and a mentally healthy climate for the growth of elementary pupils. Education in the school of 1975 will be value-oriented to increase the pupil's sensitivity and reaction to social problems, to improve his skills in group relations, and to enhance his creative use of leisure.

Certainly the most vital element of the elementary school of tomorrow is the teacher. A shifting, but major, role for the teacher in the WETEP school will be to act as a small-group instructor, offering the benefits of mature, experienced leadership. In this role he will serve to focus upon problems, stimulate, and help to establish criteria for tentative solutions. Since machines can respond more easily than teachers to the great range of individual differences found in groups of increasing size, it is likely that the teacher's role in working with large groups may be limited to such activities as television teaching or tele-writing. A second major role for the teacher is that of tutor-challenger. In this role a teacher works with one or two individuals, helping them to discover their interests and strengths, and their weaknesses. The teacher also encourages individuals to probe more deeply into subjects that intrigue them and to sharpen their thinking about important ideas. A third, and probably the most uniquely powerful, role which a teacher can play in this school is that of learner. In this role he provides for children a model of the human being struggling to know what he does not know. The teacher is a learner about learning as he tries to make increasingly successful decisions about how to present material to children or how to encourage children to inquire.

The ability of computers to store and utilize large quantities of information about individuals provides a potential for individualized instruction. The task will be to develop a system in which three elements--teachers, materials and computers--are orchestrated so that each may make its optimum contribution to the learning process. The goal remains individualization of instruction and technology is one tool to assist in the accomplishment of this objective. One function of the computer will be to compile a diagnostic appraisal of the relevant backgrounds, abilities, interests and learning styles of each child. From these data it will be possible to propose tentative goals for each student and a program of learning experiences designed to achieve them. Another function of the computer will be instructional in nature--to facilitate information retrieval and to simulate exercises or games in practice activities.

The schools of tommorow will be media centered and computer facilitated. But it must not be forgotten that it is only in full concert with the human dimension of the classroom environment that the effectiveness of technology can be fully realized.

COMMUNICATION: A CURRICULUM FOCUS

Abstract. Today's schools no longer need to teach literacy, but even with changes in buildings, equipment, and teachers, the curriculum has remained unchanged, focusing on mastery of academic subjects. Books and course syllabuses affect most learning behavior, the operational goals of the school being those of producing academicians at earlier and earlier ages.

Curriculum is defined as an educational plan with objectives, exemplary learning situations, and exemplary evaluation techniques. Instruction is an interaction between teachers and pupils to help the learner achieve specified objectives, which are purposeful statements describing desired student behavior in various contexts. Communications is delineated as an inter- and intra-personal process of transfer of meaning, and evaluation is description of an individual's progress toward one or more goals.

Since man is a rational, social being, knowledge should be a deeply personal means by which he can make real decisions in society as it exists for him; thus learning should be an internalized behavior change. Possessing information does not guarantee behavior change; academic matter must be justified in terms of its contribution to the ability to communicate.

The goal of communication is to direct the child in acquiring attitudes and skills in interpreting his world, and in clarifying to himself what the implications are for him and what decisions he can make. Communication is a process in application. The academic disciplines can be functional with communication as a core. The child should experience real communication with peers and representatives of the disciplines, and participate in activities where communication is essential. He should explore a variety of ways to communicate and how these ways can help him interpret "messages" from the disciplines to make decisions about himself. Through communication, learning becomes an independent means to cope with the world, an internal, personal affair.

Organized with the disciplines serving as tools, the learning situation is a six-celled structure: verbal and non-verbal modes of communication in the cognitive, affective, and psychomotor dimensions. Fragmentation of learning is redu ed by the broken lines and overlapping between the six cells. Ideas from child development and other areas of study structure the sequence of the learning, and activities stress student-teacher dialogue. Evaluation occurs through questioning and personal judgment, and is concerned with the child's progress in a direction set by him; it is not a labeling process.

Instead of the child's being prepared, in the elementary years, to master the academic disciplines as expected by the high school and college, these schools should be prepared to meet him with a continuation of the communication curriculum...a plan to teach self-acceptance and effective coping with the world.

TEACHER ROLES FOR 1975

Abstract. Innovations underway in curriculum development, in individualization of instruction, and in use of technology will be accompanied by organizational change within the schools. With these organizational changes will come potentially new roles for teachers.

Traditionally, the roles assumed by the teacher, listed in order of priority on the teacher's time, have been 1) information transmission, 2) management and administration, 3) guidance, and 4) modeling. In schools beyond 1975, it may be expected that this order of priorities will be in precisely the opposite order from that in which they are perceived in the traditional school.

Information transmission, instead of being handled almost exclusively by the teacher, will be assumed by technological aids in the classroom. The time-consuming managerial and administrative role will be increasingly assumed by paraprofessionals and instructional secretaries, aided by computers.

The guidance role will be strengthened by increasing amounts of information available about the individual learner. Improved teacher education programs as well as technology will develop in the teacher a professional competence in assessment, evaluation, and guidance procedures. As its goal, this guidance will help the student organize information about himself and the world around him.

In his most important role as a model, the teacher is seen as a learner, searching for information about learners and the learning process, and searching with the children to add to their knowledge of whatever they are studying. In the learning process by which the individual strives for self-improvement and the betterment of his environment, inquiry behaviors such as self-discipline, intellectual risk, persistence, and imagination in seeking, interpreting, and patterning data are essential. It is the teacher model who teaches by demonstrating through his own behavior a commitment to the processes of inquiry and learning.

A CYBERNETIC SYSTEM FOR WETEP: A MODEL DESIGN FOR THE PREPARATION OF TEACHERS

Abstract. The goal of American education is to prepare young people for future effectiveness and self-realization as citizens. Providing multiple and equalitarian learning opportunities, our schools focus upon the individual learner. In contrast to other countries, American teachers bear major responsibility for pupils' achievement. The preparation of teachers is inadequate to teaching roles and duties; many weaknesses of today's schools reflect it.

Analyses of teacher education programs show they are poorly planned. A systematic analysis of teacher education can be developed by applying cybernetic theory to social organizations. Stating learnings in behavioral terms when feasible, focusing on specific objectives, and developing the means to gain them, we can postulate information systems to meet the needs of organizing, classifying, and sequencing educational processes, such as WETEP.

The WETEP cybernetic model contains four basic components. The Input component selects new candidates, the Teaching-Learning component effects desired learning, and the Output component extends the learning process by interrelating WETEP with the schools. The Feedback component supplies vital control and guidance to the entire system.

Meaningful screening at the Input stage should be developed with adequate information on student characteristics to begin a process of predicting future student success, as well as assessing the student's individual interests and needs and orienting him to the program.

The Teaching-Learning component fulfills the many programmatic and individual objectives through studies, diverse experiences, and carefully sequenced patterns of learning. Multi-media and computerized programs help provide individualized and actual learning experiences.

The WETEP system incorporates a taxonomy to organize, classify, and define what objectives are to be learned and how they can be taught. The taxonomy is a systematic arrangement of objectives-operations from basic components to elements, through subelements and modules, to the level. The level stage is the point where theoretically one objective (a "micro-criterion") is developed, i.e., where actual teaching and learning occurs. With such systematic planning, extensive flow-charting of objectives-operations with standardized symbols have been found feasible.

At the Output component, extensive clinical experiences are conducted in a truly professional setting closely involving the student, cooperating teacher, and college supervisor. Candidates' smoother transition from training to school and closer working relationship between the schools and teacher education center will be achieved through improved student-college-school relationships in more realistic and practical clinical experiences.

Information flowing in the Intrasystem channels provide immediate feedback for students' learning, progress assessment, and component development and improvement. The Intersystem channels provide reciprocal feedback between training centers and schools.

COGNITIVE AND AFFECTIVE LEVELS IN TEACHER EDUCATION

Abstract. The organization of WETEP components is patterned after the taxonomies of Bloom and Krathwohl, et al., and built upon the concept of six levels of cognitive objectives: 1. knowledge, 2. comprehension, 3. application, 4. analysis, 5. synthesis, 6. evaluation; and five categories of affective objectives: 1. receiving, 2. responding, 3. valuing, 4. organization, 5. characterization by a value.

Another accepted assumption is that though cognitive and affective behaviors are by fact inseparable, they must be treated separately for purposes of emphasis and structuring learning. No one-to-one correspondence exists between these two types of learning, and they require different learning opportunities. Since cognitive and affective behaviors develop from simple to complex, learning opportunities differ with the complexity of behavior sought.

The cognitive domain appears to be two dimensional, i.e., operative at each level in degrees of sophistication, while the affective domain is unidimensional, i.e., not operative in degrees of sophistication.

Generally, in pre-service education, it is expected that Level 3 (Application) of the cognitive skills will be reached. But WETEP proposes an additional progression towards cognitive levels along a continuum of sophistication. It is understood that it will not be possible to move students to the most sophisticated point on the continuum at all levels. One might be required to progress to Level 3 at a very sophisticated point, or as far as Level 6 at a naive point.

Within the affective domain, in order to structure learning, the study of the way in which values are acquired is paramount. Professional studies report verbalization of values without ensuing behavioral change; affective behaviors cannot be achieved through exhortation or admonishment. WETEP educators propose to create situations for exposing students to their objectives or values. If students are to identify with individuals who operate on "WETEP values," then students must have opportunities to clarify and challenge the values of the instructor as well as their own.

A pattern of learning has been diagramed running from complete contact of student with mechanical operations to complete student-faculty contact. In all areas of teacher education, application of this pattern will produce students characterized by being both "able and willing."

TEACHER EDUCATION AND CURRICULUM DEVELOPMENT

Abstract. The basic aspects of elementary education, i.e., pre-employment education of teachers, in-service education of teachers, and curriculum improvement have been viewed as discrete ideas. The results of this uncoordinated program have been insufficient preparation of teachers for the employing schools, inadequate in-service education to equip teachers to deal with new ideas in curriculum, and poor utilization of technological innovations.

The aim of WETEP is to foster joint and co-determined efforts by university and public school personnel to relate pre-service and in-service education and curriculum improvement. The arrangement has seven major characteristics:

1. A partnership for joint participation in programs for pre-service, in-service and elementary education with personnel roles redefined to yield the maximum contribution from all involved. A commitment would be made by all parties to develop cooperative experimental projects both on campus and at public schools.

2. The university, the public school, and the student would share responsibility for diagnosing and prescribing next steps in the individual student's program.

3. A regular, systematic, short-term exchange of teaching opportunities between campus and public school personnel would transmit new knowledge to pre- and in-service education and elementary programs.

4. Adoption of specific programs in certain public schools, such that interested candidates might have at least one laboratory or clinical experience that would allow thorough assessment of education programs.

5. Continuous dialogue between all education personnel would provide similar information and background for all.

6. All acceptable students would be required to teach their first full-time year in a WETEP associated school.

7. The recommendation for certification would be given to the State Department of Public Instruction only after one year of satisfactory teaching experience. A total commitment to cooperative involvement by the public schools and the university is the only assurance of progress in teacher education and curriculum development.

NEW ROLES FOR UNIVERSITY FACULTY

Abstract. The university faculty must use its knowledge, skill, and awareness more effectively to be consistent with modern systems approaches to social organization. To individualize learning, the faculty must utilize multiple technological resources.

The faculty must establish professional education programs that augment the purpose of the entire university: developing moral and social commitment, and technical competence. A student-faculty partnership reached through mutual evaluation, the use of new instructional resources and increased interaction with and sensitivity to each other is essential. Each professor, encouraging criticism, inter-class visiting, student interpretation and integration of the area he has studied, exemplifies the characteristics he expects his students to exhibit.

New patterns of staff relationships will result from new roles cast for researcher-teachers, teacher-programmer, supervisory personnel, college-teaching interns, and program assistants. The university is obligated to assist the faculty in engaging in self-assessment and in-service education to improve understanding of adult learning behaviors, university teaching, and instructional functions.

As part of his new role, the professor must view positively the modern technology, conforming it to this mind-set, rather than letting it shape his mind. Insofar as evaluation is concerned, he must seek new ways to develop potential; it is not his function to limit those who would learn.

The new role of the university professor lies in examining his partnership with students and with the university and public schools.

THE WETEP MEDIA AND TELECOMMUNICATION SYSTEM

Abstract. WETEP's formula for achieving the objectives stated in its various elements depends on the total involvement of the learner under close instructional supervision and guidance. The major communication emphasis is on person-to-person contact between students and faculty, through individual and small group conferences. WETEP also makes extensive utilization of technological facilities designed to increase the effectiveness of information transmission to students. A critical aspect in the development of such a system is the proper selection of instructional media to fit different learning objectives while meeting the individual needs of students.

Media selections will be made only after specification of the types of learning involved, the desired behavioral objectives to be attained, and the particular instructional event to occur. Media options will be examined in light of previous findings, and field-tested to verify effectiveness, economy, and convenience. Written specifications for the selection, preparation, production, and utilization of materials are all part of the development and implementation procedure. In the WETEP Program Development and Research Center, continuous study of media choice related to the individual learning experience will be maintained.

All audio-visual material will be stored in an information retrieval system on audio tape, video tape, sound film, slides, or in computer memory banks. The WETEP faculty and staff will be directly responsible for programming, development, and research associated with these stored materials.

The Teletype-Audio-Video terminal (TAV) used by students in individual carrels in the Learning Center, in participating schools, and by instructors will feature a silent teletype keyboard, television and computer video tube, headphones, and a selector switch for choosing programs. A Flexible Terminal Base (FTB) situated at the juncture of conference or office spaces will provide for optimum use of the TAV's by permitting them to rotate as needed to locations around the Base. Seminar and Media Reception Rooms will be equipped with enlarged input-output facilities (TAVe's) for group interaction. The Media Reception Rooms will also be equipped for simulated learning activities.

WETEP AS A RESEARCH FACILITY

Abstract. An integral part of WETEP development is the provision and facilitation of research in teacher education. The systems model enabling the faculty to manage the flow and specifications for all parts of the program will make possible precise, sophisticated research design.

The broad parameters of WETEP concern student selection in the establishment of professional objectives, in instruction strategies within WETEP modules, and in pace and sequence of progression in learning activities.

WETEP research will identify the implementation patterns of a systems approach to teacher education that can most efficiently organize and interrelate the many learning and instructional tasks. WETEP will also study the effects of using objectives statements in a variety of forms, coupled with research on the degree to which students can self-select, self-direct, and self-pace these learning objectives.

Assuming that the developmental direction taken by technology in teacher education should be one concern of the professional educator, WETEP staff will study the relationship of technology to the effectiveness of its educational efforts.

A major feasibility study of WETEP is concerned with the viability of an unfolding university-business relationship fostered through research and development in education.

WETEP proposes to determine over a period of time if some kinds of cooperating school-university relationships are more feasible for some types of schools than others, and which relationships make in-service education the most effective adjunct to teacher education. The length and character of the internship program, as affected by technology, WETEP instructional modules, and the systems approach in defining objectives, represents another major feasibility study.

Two dimensions of the faculty role to be researched are the faculty serving in the guidance capacity and as models--two roles which take increasing priority over the administration and information transmission roles.

The entire WETEP faculty realizes that any program which emerges from WETEP specifications can expect to meet with periodic success only as it develops under continuous careful scrutiny of a concerned staff.

ASSESSMENT PROCEDURES FOR WETEP

Abstract. Viewing present testing programs as static both in goals and function, WETEP emphasizes the use of tests as diagnostic and prescriptive tools. A proposed six year program of research and development in the area of Computer Assisted Testing (CAT) has four interrelated purposes:

1. To further develop the body of theory and method in computer-assisted testing.
2. To develop computer-assisted testing materials and programs for each WETEP component.
3. To provide continuous and individualized feedback for the WETEP student.
4. To assess the extent to which the behavioral objectives of WETEP are attained by individual students and the system.

The basic research on the design and evaluation of sequential tests will include investigation in three major areas: the structure of sequential tests, item types and formats, and response types. Several branching and item selection procedures will be evaluated under the first major heading, such as, the optimal number of branching points, item selection for maximum information, and appropriate weighting of items.

The focus under the second major heading will be the use of items requiring an interactive exchange between the student and the machine. Non-multiple choice items and different types of feedback will be evaluated for effectiveness, and the use of incorrect responses for diagnostic purposes will be field tested. The usefulness of decision rules and student attitudes and motivation will be examined.

The third major area will encompass explorations and evaluations of additional response information and response types that are facilitated by computer-assisted testing techniques; confidence ratings, the use of subjective probability, and response latency are a few sources to be explored.

Evaluation will be concentrated on test reliability, parallel form reliability, modified internal form consistency, and validity.

As progress is made toward the goals of the proposed program of basic research, the most efficient of the computer-assisted testing techniques will be used in the operational implementation of the project.

WETEP AS AN ALL-UNIVERSITY FUNCTION

Abstract. The entire University of Wisconsin faculty is responsible for the quality of teacher education. The organization of the School of Education involves all University faculty who teach courses taken by teacher education students. This faculty includes 1076 professors from 61 different departments, with the School of Education providing over-all administration. All departments provide leadership in developing specialized policies that affect them. Active participation is encouraged to build a sound program balanced in liberal education with specialization in subject fields and teaching skills.

The WETEP student will begin with two years of study within the College of Letters and Science. His next two years will be devoted to combining specialized study in professional and non-professional education and to an intensification of the professional elementary teacher education program.

The WETEP areas of specialization will be individually designed cooperatively by the student and his advisor in areas such as science, communication, learning, or assessment activities. The instruction making up the area of specialization will include a combination of modules developed within WETEP and related courses in appropriate disciplines. Specialization in science, for instance, will include study within the WETEP science element beyond that required by all students and might also include such courses as meteorology, geology, astronomy and geography.

The result of the University-wide participation in this program is the preparation of a teacher with a strong general academic background, an area of specialization, and an understanding and competence in the area of professional education, all of which provide a base for continued educational activity throughout his professional career.

THE ROLE OF THE SCHOOL

Abstract. The output component of WETEP is located in the decentralized network of cooperating schools. This organization must be reconsidered for several reasons. The output component at times precedes or interrupts the teaching-learning component because of disarrangement of the student's four year education program. Feedback loops between the student, school, and campus are often disoriented, preventing diagnosis and prescription from functioning effectively in providing an individualized instructional program. The schools do not benefit, the institution gets little information for improvement, and the students do not receive effective preparation.

WETEP views in-service as only the beginning of the total output component, which encompasses the entire professional career. Three models for public school participation are planned. All provide for intern placements, for improved communication, and for effective feedback. Plan I involves those ten school districts which hold membership in the school consortium, Midwest Individualized Learning Systems. The schools are involved with the University portion of WETEP in the cooperative development of curriculum planning to provide for individualized programs throughout the school.

The faculty is characterized by its flexible organization, having released time for cooperating with the institution's intern program, and for using University resources. WETEP is involved to the extent of maintaining contact, sharing resources and personnel, providing in-service education for teachers, and guiding the pre-service program. The participating schools benefit by curriculum development, instructional management, faculty education, and use of technological equipment. Under Plan II, the WETEP telecommunications system will provide instructional resources for both interns and in-service teachers. Each school district will maintain a Professional Education Room, which will be equipped to facilitate two-way communications with the University. Plan III suggests the use of mobile classroom vans, possibly in conjunction with a supervisor-visitation program.

An alternative plan utilizes the entire last year of the teacher education program as a paid internship. During the first semester, the student acts as an instructional aide. He also works in methods or educational psychology areas offered via the telecommunications system. During the second semester, the student serves as a full-time teacher-intern.

The in-service program in associated schools is provided in part through the WETEP telecommunication system, with instruction being highly individualized with personal assistance and guidance by WETEP specialists.

Each of these plans offers a continuing relationship with WETEP. Pre-service and in-service education become a unified teaching experience prepared cooperatively by the public school and the University.

INPUT COMPONENT: ORIENTATION AND SCREENING

Abstract. The introductory experiences in WETEP are designed for students who wish to examine the potential of Elementary Education as a professional field. In addition to developing an awareness of the demands and rewards of teaching children, the students are assisted in determining to some extent their own suitability for that role. Thus, both orientation and screening functions are performed at the point of the Input Component

The Input Component provides orienting, advising, and screening experiences in a systematic manner. Information about each student's abilities, interests, value orientation, attitudes, past experiences with children, and other biographical data will be garnered and made available to faculty members working with students at subsequent points in the program. The elements, subelements, and modules of the Input Component take the following form:

I. Screening Element
   - A. Initial Screening: Prior to entry into Orientation Element
   - B. Second Screening: Prior to entry into Teaching-Learning Component

II. Orientation Element
   - A. Teacher Role Orientation Subelement
     1. Decision-making Module
     2. Communicating Module
     3. Environmental Managing Module
   - B. Personal Orientation Subelement
     1. Value Clarification Module
     2. Self-assessment Module
   - C. WETEP Orientation Subelement
     1. Certification Sequence/Option Module
     2. Resources (Facilities, Equipment, Materials) Module
     3. Personal Instructional Plan Module

Each of the subelements provides a framework for two or more modules or experiential units. Students are able to move into and out of each module in order to facilitate administering the element and to provide individualized sequences for students. The content and the experiences available within each module are numerous, diffuse, and varied so that students find several alternative forms to choose from in preparing themselves for the attainment of objectives associated with the module.

Essentially, the WETEP Input Component is designed to provide situations in which students can become acquainted with the design and resources of WETEP, develop an appropriate personal instructional plan within WETEP, and begin to think like teachers and to make decisions like those faced by teachers.

EDUCATIONAL PSYCHOLOGY

Abstract. The educational-psychology element of WETEP develops in students an understanding of principles of human development, learning, and measurement & evaluation through flexible, individualized programs of study. The three areas comprise the educational-psychology subelements. They are closely integrated with other aspects of WETEP, servicing such elements as Communications, Science, Health, Social Studies, and Special Education.

Within each subelement, subject matter is further subdivided into modules, each of which contains the following sequence of instructional activities:

A prospectus: A preview of the modular content and its educational relevance.

A pre-test: An instrument to assess the student's subject-matter proficiency, eg. adequacy of preparation or need for supplementary study.

The instructional unit: An organized presentation of content designed to achieve the objectives of the module.

A post-test: An instrument to evaluate the student's mastery of modular material.

The order or sequence in which students may study the content of different modules is determined on the basis of four interlocking considerations: 1) special prerequisites for certain modules; 2) objectives of other WETEP elements; 3) professional advice or counselor recommendation; 4) student's personal choice where elective options are available.

Access to each module may be gained by passing through a basic introductory module, by showing evidence of previous mastery as indicated by attainment profiles, or by successful performance on preassessment instruments. The modules are organized on a continuum distinguished by three levels, ranging from the general to the specialized. The general level includes survey material, generalizations, and data which introduce students to basic introductory content. The second level modules offer more specific knowledge and introduce sophisticated analyses. The third level modules are highly specialized and are designed to meet particular needs of individual students. Modular content is presented using different media and clinical/laboratory experiences. Where relevant, cognizance is taken of developmental and social class differences.

COMMUNICATIONS

Abstract. The Communications Element of WETEP relates to language in the general sense as the vehicle by which one communicates, whether by writing, speaking, gesturing, dramatizing, composing messages, interpreting the messages of others, by reading, listening, or by use of modern media. It recognizes that the ultimate goal of communication is to maximize the child's interactions with other people, and to permit him to have access to the values and thinking of the people of the world.

The Communications Element is designed to develop in pre-service and in-service teachers an understanding of the competence and performance needed to help children express themselves and to receive and interpret the intellectual, emotional, and social expressions of others. With communication as the central focus, the programs proposed in other WETEP Elements contribute to the development of the teacher's philosophy and competence in many areas. This Element integrates and synthesizes numerous competencies, personal and professional, that contribute to a student's becoming a successful teacher of various communicating processes.

There are five major characteristics of the Communications teacher: The WETEP teacher:

- demonstrates personal communication competencies
- knows the theoretical structures and physiological-psychological-sociological factors which influence the communication processes of elementary pupils
- knows developmental programs in communication
- assesses each pupil's levels, needs, and competencies in each process of communication and can prescribe individualized profiles of desirable communication outcomes
- establishes the environment for pupil communication in a variety of socio-cultural settings

Major emphasis in the program will be on expression. Communication performance, particularly the productive communication of children and adults and the social and psychological forces which affect them, will be the prime model for the curriculum. A language learning environment will be technologically perfected and programmed in such a way as to facilitate free exploration and discovery of interrelationships among the communicating processes.

The Communications Element is composed of four subelements: Theoretical Structures, Developmental Programs, Assessment and Diagnosis, and Environment. Progress through these subelements is described in modules for which objectives have been written in both the cognitive and affective domains. One detailed implementation example of an instructional unit within Module 1, the use of standardized reading tests, has been described.

MATHEMATICS EDUCATION

Abstract. WETEP Mathematics Education derives its nature from the intersection or interaction of a complex of things which may be grouped in these three categories:

A. The discipline of mathematics
B. Curriculum and Instruction (inlcuding clinical/laboratory experiences)
C. Related disciplines (such as philosophy, psychology, sociology, history) and their mediating analogs (such as educational philosophy, developmental and educational psychology, educational sociology, history of education)

Within the context of a WETEP system, the Mathematics Education Element will be designed to facilitate a teacher's development of five broad characteristics which form the basis for these illustrative mathematics education subelements and modules:

1. Background in the discipline of mathematics
2. Rationale and objectives for an elementary school mathematics program (ESMP)
   A. ESMPs in historical perspective
   B. Rationale for contemporary ESMPs
   C. Broad objectives of contemporary ESMPs
3. ESMP mathematical content and related abilities
   A. Nature and scope
   B. Sequential organization
4. ESMP instructional strategies, materials, and media
   A. Utilization of research findings
   B. Utilization of appropriate instructional strategies
   C. Utilization of appropriate materials
   D. Utilization of appropriate media
5. Evaluation of outcomes of an ESMP
   A. Role of standardized tests
   B. Other evaluation instruments and techniques
   C. Diagnosis and prescription

For each of the subelements 2-5 and its modules, illustrative objectives have been formulated in terms which explicitly or implicitly have behavioral connotations. Detailed implementation plans have been suggested for two such objectives, to illustrate the possible use of various experiences, modes of presentation, media, and levels of attainment in an attempt to individualize students' work in mathematics education.

The subelements and modules of the Mathematics Education Element are not independent entities, but overlapping--both across subelements and across modules within a particular subelement. Thus, a system is envisioned which will permit considerable flexibility in a student's path of progress within the Mathematics Education Element.

SCIENCE EDUCATION

Abstract. The Science Education Element of WETEP is designed as a teaching-learning system focused on the individualization of instruction, effected through the application of systems analysis techniques combined with computer management technology. Thus it is designed to offer the student a variety of choices relative to learning environments, the uses of instructional media, and instructional modes.

While it is neither desirable nor possible to model in any specific way the ideal elementary science teacher, certain desirable teacher characteristics may be described, and in this way an operational definition of an effective science teacher can be set down. In WETEP, the effective teacher of elementary science:

- understands the conceptual structure of science, and the mechanisms by which this structure is generated
- understands the role of science in the life of an individual and that of society; he also understands the role of society in the life of science
- has formulated a philosophy of science teaching
- has a favorable attitude toward science and science teaching
- can identify, define, and solve science related problems
- possesses a knowledge of and ability to use a variety of science teaching methods and materials
- recognizes and understands the need for a program of instruction designed to deal with variability among children
- desires to improve the science teaching-learning process.

These desired teacher behaviors comprise the general objectives for the Element and are grouped to form three subelements. The subelements in turn consist of several modules, each of which focuses upon a major program objective. The program provides for great flexibility in student movement through the system. Not only may the student select the order of entry to the modules, but he may also re-enter modules at his option. The system is non-linear; it is highly probable that no two students will trace identical pathways through the system.

Three subelements are named: Philosophy, Process, and Method, followed by statements of objectives, each of which is further detailed in submodular objectives. Within the Process subelement, the Measurement module is examined in depth. This exemplary module is designed to illustrate more specifically the pathways and operations available to the WETEP student as he moves through the Science Education Element system. It details the variety of options available to the student as he interacts with the system in its various instructional forms. Progressing individually through each chosen module, the student will, prior to teacher certification, need to reach the minimal attainment level for all of the specified objectives.

SOCIAL STUDIES EDUCATION

Abstract. The Social Studies Education Element, like many others within the WETEP system, involves extensive interaction with studies in other academic areas. Study in the Social Sciences will be initiated early in the student's college experience. Thus, at the point of entry into the WETEP Social Studies Education Element, many major understandings in the several disciplines of the Social Sciences will have been developed. Minimal competence for teaching elementary Social Studies will include work in at least two of such Social Science disciplines as history, anthropology, sociology, economics, political science, or geography. The understanding of major ideas in the Social Sciences and the development of skill in inquiry and valuing are thought of as taking place prior to a student's study about teaching particular content to children.

The Social Studies Education Element begins with the pre-assessment, orientation, and planning activities. The initial seminar experiences in this element are designed to provide meaningful analysis, interpretation, and integration of previously studied content in the Social Sciences. Further, seminars will project continued study in those areas and lay plans for the study of teaching strategies designed to implement knowledge, inquiry, and valuing in students' work with children.

The three subelements in the Social Studies Education Element are closely related and are in constant interaction with each other. Across subelements, the sequences of learning experiences in Informing Children in Social Studies, Inquiring with Children in Social Studies, and Valuing with Children in Social Studies will vary from student to student. Within the subelement, however, the same pattern of learning experiences will be followed in modules Knowing About, Applying, and Evaluating.

Within the Knowing module of the Informing Children subelement, WETEP students learn to identify and describe techniques for transmitting to children information which corresponds to their varied abilities and interests, and which is calculated to stimulate inquiry behavior. Within the Applying module, students learn to identify objectives, utilize appropriate instructional materials and media, measure growth through appropriate assessment techniques, and diagnose further pupil needs. In the Evaluation module, WETEP students develop skill in measuring their own growth as teachers. Cooperative judgments are made as to whether or not an acceptable level of attainment has been achieved. Furthermore, within this module the student's ability to measure and judge the effectiveness of materials and techniques for achieving specified objectives with particular children under given conditions is developed.

Illustrative objectives are offered for the Knowledge, Application, and Evaluation modules in the Valuing subelement.

CURRICULUM AND INSTRUCTION ELEMENT

Abstract. The Curriculum and Instruction Element is in constant interdependence with all other elements of WETEP as together they provide the total pattern of instruction designed to produce the WETEP teacher. A major concern of the Curriculum and Instruction Element is the identification and description in measurable terms of those teacher functions and behaviors basic to successful teaching, independent of any single content area. Experiences in each instructional unit are structured with a breadth and depth of involvement appropriate for each student or teacher as dictated by his interests, needs, characteristics, and capabilities.

This Element includes four subelements which identify the broad characteristics that the WETEP teacher will acquire as a result of his participation in the program. Each subelement has from three to six modules which identify specifically the scope of the subelement. Illustrative objectives focus on the competencies to be developed in modules and develop criteria for assessing progress and diagnosing performance levels.

Subelement I: The WETEP teacher is able to select appropriate data sources and diagnose data relevant to the development of objectives for learners.

Subelement II: The WETEP teacher is able to formulate appropriate objectives.

Subelement III: The WETEP teacher is able to translate curriculum plans into operational teaching-learning behaviors.

Subelement IV: The WETEP teacher is able to assume a high degree of personal and professional responsibility.

The various functions and responsibilities of the teacher may be identified as preactive, interactive, and postactive. Most of the instructional units concerned with teacher functions in the first three subelements will be found to fall into these three classifications. There are a number of teacher characteristics of such a nature that they do not fall neatly into pre-, inter-, and post-active designations. Behavioral objectives presented in the fourth subelement will be demonstrated by the total student engagement in various instructional units. For example, personal responsibility, as a cumulative characteristic, permeates all other teacher activities as the student pursues his unique pattern of learning experiences in WETEP.

The Curriculum and Instruction Element provides instructional modules each of which includes various levels and forms of experience. A specific teaching function may be studied at the para-teacher competency level, or at levels appropriate for teachers, specialists, or master teachers. As the WETEP student proceeds through his Curriculum and Instruction program, he may channel his experiences into any of a number of possible areas of specialization, such as multi-media utilization or production, analysis of teacher classroom behavior, group dynamics, or diagnosis of pupil needs. The myriad behaviors and functions that make up teaching provide an ever expanding area of study which, in WETEP, begins with the student's first professional experience and continues until his retirement from the profession.

ART EDUCATION

Abstract. The structure and content of Elementary Teacher Education in Art in the years to come will be substantially affected by our vision of Art itself in the curriculum of the elementary school, and by the role we foresee for the teacher of Art. Accordingly the WETEP concept emphasizes instructional roles which will facilitate individualized studies and explorations. Individual programs will be designed to fit each prospective teacher's rate of progress and levels of competency. All student programs will include some minimal competencies in Art. Some programs will reflect in-depth competencies for those who choose Art as a specialty area in their teacher preparation.

The Minimal Competencies make up the first of four subelements in this Element. All elementary teachers should attain some sophistication in the visual arts and an interest and curiosity to seek further understanding and knowledge in this area. All prospective teachers should gain some awareness of the historical, social, and psychological foundations of Art. All should be aware of the visual aspects of our culture, the place and function of design. Since the effectiveness of the teacher in matters of the visual arts is largely determined by the sensitivity of his visual powers, he should be able to see in a discriminating and visually elaborated manner.

For those electing Art as a special interest, the foundation or base for the critical selection and appraisal of all Art learning situations is provided in the Understanding of Art subelement. The next subelement, Making Art, provides the knowledge of materials, processes, tools, equipment, and procedures necessary to develop appropriate learning activities for pupils in the elementary school. And the last of the subelements, Teaching Art, stresses the teacher's ability to structure the psychological and physical dimensions of learning experiences in this field.

Art shares with other areas of the curriculum several dimensions, the recognition of which provides a unifying factor in elementary education. For example, Art shares with Mathematics the perception of certain spatial relationships and the content of the Social Studies can provide the subject matter for Art. As the WETEP system is implemented, teachers' roles in all areas will expand to those of supervision, guidance, and evaluation of individualized student work in studios or in self-study learning centers.

HEALTH EDUCATION

Abstract. In the course of the Health Education Element, the WETEP student will come to know the critical need for individual health instruction and guidance, for pupils and parents. He will learn to apply the program which best meets the needs of various socially stratified pupil groups in their attainment of desirable health understandings and behaviors. He will learn to combine relevant data to facilitate a strategy of environmental improvement. He will learn to schedule resource personnel from community agencies, and acquire and put to use appropriate health teaching materials.

The caliber of school health services, Health Education programs, and healthful environments presently available to people are too often not addressed to on-going needs. The WETEP Health Education Element has evolved in response to these human needs.

WETEP assumes that health is one of the most important factors conditioning success in all undertakings, personal and social, and that for this reason, schools must properly place great emphasis on the improvement of health behaviors as an outcome of education. The ability of youngsters to cope with stress, societal demands, and the mores of the establishment is formulated in their very early school experiences. Accordingly, WETEP's Health Education Element has been designed to prepare elementary teachers who can appreciate, analyze, and apply in their teaching a thorough knowledge and understanding of health needs and services.

The Health Education Element, like other instructional elements in WETEP, is built upon a base of defined educational objectives. Particularly stressed in this element are:

- the relationship of good physical and mental health to academic achievement and the impact of poor health on students' performance

- principles of plausible health education procedures for helping to alleviate personal, family, and community health problems

- academic climates designed to motivate desirable human responses to health education

- the variations in human ecological factors which necessitate the preparation of a variety of health teaching programs.

In short, the WETEP teacher, through his understanding and promotion of physical and mental health, helps pupils take full advantage of educational opportunities which have been made available to them.

SAFETY EDUCATION

Abstract. Within the Safety Education Element of WETEP are five subelements, and within the subelements certain teacher characteristics have been defined as follows:

Accidents: The teacher evidences an understanding of the extent and scope of the accident problem, and of the elements which are involved in a program of prevention through educational programs.

Rationale: The teacher can justify the inclusion of safety education in the school program.

Programs: The teacher exhibits an ability to translate prevention needs into unified and sequential teaching programs.

Teaching: The teacher defines learning goals realistically, and sets forth guidelines for individualized pupil competencies in verbalization knowledge, physical skills, and techniques of accident prevention.

Evaluation: Th teacher can measure the quality of objectives and can appraise the steps taken to reach these goals.

Each of the subelements is organized so as to illustrate the relationship of the instructional modules within them to one another, and to illuminate the students' progress through them.

It is expected that Safety in the elementary school will be taught by each WETEP teacher in an appropriate integrated fashion. Their preparation, therefore, will include study within many of the modules of this element. They will learn the basic causes of accidents, understand logical reasons for the inclusion of specific safety content in the instructional program, understand teaching materials and resources in Safety Education, become knowledgeable about teaching procedures which will contribute to individualized learning progress, and understand various devices for evaluating pupil skills and comprehension in the field of Safety Education.

Those students choosing Safety as part of their area of specialization will expect to master modules on the higher cognitive levels, will become prepared to: evaluate the mechanics of accident reporting and analysis, assess the value of essential basic research projects and successful pilot programs in Safety Education, combine desirable features of attitudinal and behavioral goals for pupils of varying ages, and can evaluate standardized tests applicable to various aspects of Safety Education.

In the belief that the elementary school is responsible for the inclusion of Safety in its instructional program, WETEP has included in its own structure those modular resources necessary to a student working to achieve the objectives of the Element.

LEISURE EDUCATION

Abstract. Among desirable educational ends to be found in each individual are:

1) the knowledge that leisure is a reservoir of vast potential for good and for evil;
2) the recognition that leisure is a part of one's life for which he alone assumes primary responsibility; and
3) the understanding that the principal resources upon which he can draw for leisure use are found within his own person and within his environment.

WETEP provides for the attainment of these ends through:

1) the selection and preparation of teachers who have themselves lived richly and fully in their own leisure;
2) the utilization of instructional procedures which kindle lifelong interests in prospective teachers and emphasize satisfying forms of personal expression which will influence the lives of the children they teach;
3) the utilization of places most appropriate to each kind of learning, including the civil community and the natural environment;
4) capitalizing on extraclassroom learning experiences of a social, cultural, physical, or educational nature, both in school and in the community;
5) fostering a sense of responsibility in each WETEP teacher for helping to develop leisure resources in every student.

The role of the school in leisure education calls for an indirect rather than a direct approach. Developing an understanding about leisure is a kind of learning which is more often an accompaniment of experience than an object of experience. Attitudes toward leisure and its uses are not taught as such, although the skills and the knowledge necessary for intellectual exploration may be taught directly.

The school does bear responsibility for such leisure education functions as:

1) fostering a knowledge and understanding of
   - the human organism and human resources for leisure use;
   - the environment, natural and man-made, and its potential for leisure use;
   - the relationship of the uses of leisure to physical and mental health.
2) assisting individuals to develop personal resources for leisure;
3) protecting students from physical and moral dangers with which they are not yet ready to cope;
4) counseling students in the selection of leisure experiences that bring meaning to life;
5) kindling the desire for learning as an occupation of leisure.

Thus, these responsibilities will be among those sought in the WETEP teacher throughout the course of his professional activity.

GUIDANCE EDUCATION

Abstract. The WETEP teacher's foundation in sociological, psychological, and educational studies will be prior to his enrollment in the Guidance Element of his program. His education in Guidance will be essentially a period of study in two primary areas; learning about self, and learning to assist pupils with educational, vocational, and personal tasks.

Basic tools of the Guidance Element consist of interviewing and counseling practicums, the study of group processes, and sensitivity training experiences. The primary goal is to help the teacher gain, through practice, an integration of cognitive learning of facts and cognitive learning of theory. Increased understanding of self and others is sought by emphasizing sensitivity to interpersonal relationships and how they affect children's development, and sensitivity to attitudes of children and their probable reactions in given situations.

Every WETEP teacher will engage in activities designed to help him to understand his own behavior and how it is perceived by and affects others. Laboratory experiences, supervised counseling, self-analysis of interpersonal skills and relationships will be used to provide the WETEP teacher with opportunities for self-evaluation and further development of self-understanding.

Each teacher, through these experiences, will learn to assess more adequately his motives and strategies in dealing with people, others' reactions when he reacts with them, his own cognitive sets and how they affect impression formation, and the ways in which his behavior can affect the psychological and social development of others.

Basic personality profiles of attributes needed in successful teaching will be constructed. Every attempt will be made, from individual appraisal information, to help the WETEP teacher more adequately predict his own future success in teaching.

Basic to working with and helping individuals to change behavior is the interpersonal relationship. The Guidance Element of the WETEP teacher's program involves the trainee in numerous observations of experienced teachers and counselors working with elementary school children from many populations with varied learning and social problems.

As all students progress, they participate in an interviewing practicum. The WETEP teacher with a Guidance specialty participates in advanced practicums in counseling students. The practicum in interviewing and counseling includes learning how to communicate effectively with parents and colleagues, as well as with students.

PHYSICAL EDUCATION

Abstract. The Physical Education Element can be understood in its entirety only when viewed as a part of the total WETEP program. There will be considerable interaction between the modules in the Educational Psychology Element, the Curriculum and Instruction Element, the Health Element and the Communications Element. Also, basic science courses are required prior to admission to the Physical Education Element.

The Physical Education Element in WETEP places primary emphasis on the understanding of movement as it relates to self, as it can be observed in others, and as it can be improved through a systematic instructional program. This element includes three subelements which identify the broad characteristics of the WETEP teacher. Each subelement has two or more modules which serve to identify specifically the scope of the subelement. These take the following form:

Subelement A: Understanding Human Movement

- Module 1: Operational Understanding of Movement
- Module 2: Understanding of Movement Through the Observation of Others

Subelement B: Guiding Movement Experiences of Children

- Module 1: Motor Development
- Module 2: Solving Movement Problems
- Module 3: Creativity in Movement

Subelement C: Intercommunicating the Function of Physical Education

- Module 1: Interpreting
- Module 2: Supporting
- Module 3: Interaction

Illustrative objectives presented focus on the competencies to be developed in modules and will help to develop criteria for assessing progress and diagnosing performance levels.

The subelements and modules are not necessarily designed as sequential. However, it is anticipated that all WETEP students will develop an understanding of the first two subelements and the third subelement will be of particular concern for those with special interest in physical education. Students are able to move into and out of each module in order to more truly provide individualized sequences.

MEDIA AND TECHNOLOGY EDUCATION

Abstract. The WETEP concept, designed for a high degree of individualization of instruction, anticipates heavy reliance on media and technology, both in the teacher education program on the University of Wisconsin campus and in the schools in which WETEP students teach. Because of the extensive utilization of media and technology in the student's continuing learning environment, he will incidentally become quite sophisticated about the uses of these instructional aids. But, in spite of the 'rub-off' effects that participation in such a program will provide, it is believed that adequate knowledge and understanding of the production and utilization of media and technology can be attained only through direct instructional efforts which are systematically organized and made available to learners. For that purpose, the Media and Technology Education Element has been prepared.

The Media and Technology Education Element includes three subelements: 1) Instructional Media and Mediated Instruction; 2) Instructional Techniques; and 3) Research. Within these three subelements is included the instructional activity required of all WETEP teachers, together with some activities primarily designed for in-service education.

The Instructional Media and Mediated Instruction subelement includes instructional modules directed to the study of the selection and evaluation of materials, design and construction of materials, the utilization of instructional materials, and the utilization and management of a Learning Resources Center. Some study in each of the modules of this subelement concerned with the Utilization and Management of a Learning Resources Center will be left largely for the specialist in media and technology or for in-service education.

The Instructional Techniques Subelement includes modules on Programmed Instruction, Computer-Assisted Instruction and Instructional Simulation and Academic Games. These modules will be available but not required of all students. It is anticipated, however, that as students meet problems associated with any of these three major topics they will find work within the module appropriate to their instructional task in the schools.

The final subelement, Research, is prepared specifically for the specialist in media and technology or for the in-service teacher.

The objectives included in the Ohio report are used here because of their completeness, even though in many instances they are not entirely consistent with WETEP needs, philosophy and general objectives. Nonetheless, they represent illustrative objectives which will undergo continual refinement as WETEP is implemented.

MUSIC EDUCATION

Abstract. As an art form music requires training and understanding through a variety of direct experiences which range from listening, to public performance. It is the objective of the WETEP Music Education Element to provide the student with the opportunity to gain knowledge, understanding, and feeling which will allow him to elect music in fulfilling his need for aesthetic expression and experience. This objective will be reached by examining the common music experience in the folkways of the American college student, by tracing the connection between these folkways and the functional uses of music in Western Culture and in other cultures, and by showing the relationship of functional to artistic music through direct experience in the making of music.

Students vary considerably in their appreciation of music and in their ability ot perform musically. It is anticipated that this variation will not be decreased as a result of participation in the WETEP music element. Rather, students will have a great variety of musical experiences among which they may choose as they develop competencies represented by the five Music Education subelements: Music Fundamentals, Responding to Music, Form in Music, Function of Music, and Teaching Music.

General Objectives

1. To acquaint students with the fundamental building blocks of music.

2. To build favorable attitudes towards music through security gained from singing, playing and listening.

3. To provide experiences for the student to develop aural skills: melodic and rhythmic memory, discrimination in listening.

4. To provide experiences for the student to develop motor-skill competency in the use of music materials.

5. To provide music experiences which form the bases for on going development of music awareness and music taste.

6. To provide experiences in the teaching of music.

These objectives are achieved through instructional activities provided in the various subelements and modules of the WETEP Music Education Element. Students are expected to undertake some study in each of the various subelements although no minimum level of competence is required as students meet minimum requirements.

EARLY CHILDHOOD EDUCATION

Abstract. The Early Childhood Education Element of WETEP is built upon a structure of three subelements, each integrating knowledge of early childhood teaching procedures or programs with psychological principles or societal forces. The subelements contain the major objectives to be attained by WETEP students choosing to specialize in the education of children from 3 to 6 years in age.

The Introductory Module from each of the three Educational Psychology Subelements form the minimal prerequisites for entrance into the Instruction Subelement of the Early Childhood Element. Once entered into the Instructional Subelement, the WETEP student is offered various choices among alternatives in his advancement toward specialization. The subelement is made up of six modules which students enter, re-enter, or by-pass according to their need or desire or according to system assessments of their performance. Prescription and self-selection procedures are offered for the direction of each student to appropriate learning activities within the modular content: Planning Patterns, School Organization, School Relationships, Learning Environments, Assessment, and Home-School Relations.

The Curriculum Subelement is interrelated with the several methods elements, such as Communications, Science, and Health, but in the Early Childhood Element these topics will be specially developed in modules appropriate to the teaching of very young children. These include: Content, Materials and Equipment, and Processes. Within the Processes Module, a flow pattern for a unit on play has been prepared. Charting student flow among the major topics on the subject of play, this pattern serves as an illustration of the kinds of activities which might be built in to WETEP as the program continues to develop. Extensive use is made of live and videotaped observations of children playing; students are encouraged to shoot slides of their own illustrating types of play and play equipment, and to analyze them for their esthetic, psychomotor, intellectual, and humanizing values. Implementations of their planning, done with groups of children, are videotaped and later analyzed in seminar with an instructor.

The third of the subelements is the School Subelement, in which WETEP students analyze historical and theoretical positions on the education of the young child, compare and contrast various types of public and private programs, and synthesize the many issues and trends with regard to funding, staffing, and building for schooling of the very young.

CULTURALLY DIVERSE

Abstract. The Culturally Diverse Element has been developed in an effort to help the WETEP teacher to identify, understand, and appreciate societal, cultural, physiological, and psychological factors which influence educational deprivation. Understanding of the factors responsible for academic failure in schools with a high concentration of children who differ greatly from their middle class peers is an important characteristic of the WETEP teacher. His appreciation of these factors will help him to develop a sensitivity toward the setting and problems of the culturally diverse learner, and to obtain a comprehensive coverage of the social issues involved in teaching the culturally diverse child.

All WETEP teachers assume a basic responsibility to help every pupil to become aware of the basic problems and issues which our society faces and to become appropriately committed to contribute to the elimination of these problems. Because of this major commitment, all WETEP teachers will experience some study in the culturally diverse element.

Three subelements have been defined: 1) Societal and Cultural Influences; 2) Physiological and Psychological Influences; and 3) Learning Influences. The content of the three subelements is contained in modules designed in a continuum from general to specialized study. Some students, it is assumed, will choose the problems of the culturally diverse as their area of specialization.

A student of the problems of the American Indian, for example, will make an intensive study of the societal influences bearing upon this group. More specifically, he should understand the diversity of their social institutions and, on a specialized level, might choose to concentrate on a knowledge of inter-tribal affairs or of organizations on the reservation. Similarly, within the second subelement, Physiological and Psychological Influences, a student might study the physical-motor domain, concentrating or specializing on the role of the dance in the learning process of culturally diverse peoples.

Laboratory and clinical experiences will be a vital and extensive part of the Learning Influences subelement in the Culturally Diverse Element. Perhaps the most significant single experience in the Element is the ecological experience which takes place in the basic environment of a culturally diverse child. During this phase, WETEP students specializing in the Culturally Diverse spend one week living in the home of an Indian, Afro-American, or white family while concentrating on a study of human ecology. Following this ecological experience, students spend a semester working in that same community in an elementary school.

SPECIAL EDUCATION

Abstract. The instructional task for children with severe learning problems is most complex. The Special Education Element is concerned with the development of knowledge, skills, and attitudes which will enable the WETEP teacher to work more effectively with children with these learning disabilities. The element will provide background for all pre-service and in-service teachers, but is more specifically designed for students whose prime responsibility is or will be the education of children with marked developmental deficits in the cognitive, social, communication, or mobility areas.

The Special Education Element is based upon the development of logical, sequential, evaluative, individualized, multi-dimensional, and multi-media programs. It has a unique complexity due to the necessary integration and coordination with other WETEP elements. In it are examined basic theories and descriptions of normal and abnormal developmental patterns and factors affecting the learning of children, gained in the Educational Psychology modules on learning, human development, and measurement. A foundation of curricular sequences in Science, Mathematics, Communications, Art, Social Studies, and the other curricular elements is equally essential to the teacher of children with learning disorders.

Advancing in specialization, the WETEP Special Education student learns to integrate this knowledge into strategies and materials for creating environments which will enhance the learning of children with special learning problems. He begins to work out appropriate curricular modifications.

The Special Education program is organized rigorously around the behavioral attributes of the learner. The Element is composed of seven subelements relating to the basic characteristics of teachers of pupils with severe learning disabilities. Each subelement is further divided into four modules. In each case, Module I establishes the basic orientation of the subelement.

Within the Implementation of Learning Theory subelement, the module on Curricular Sequences has been chosen for detailed examination. The basic level of this module might be elected by any WETEP student to compliment his general knowledge of education. The advanced level of the module focuses on the techniques and materials necessary to remediate abnormal learning patterns. Every WETEP graduate should have some competency on this level. But the accomplishment of all criterion behaviors at the Advanced Level would not be expected until some in-service experience had been completed.

A pre-assessment, consisting of interviews, a review of previous evaluations and specific testing, will ascertain the students' level of competency. Great care will be taken in the development of instructional units for field testing and feedback through the assessment system.

SPACE FACILITIES

Abstract. The program envisioned by the WETEP staff can be effectively implemented only in a specially designed environment. The nature of the individualized program requires a pattern of instructional space quite unlike that found in todays institutions of higher learning.

The Space Facilities have been designed in keeping with the assumptions and the basic purposes underlying the WETEP systems approach to instruction. Every decision relative to space is made to reflect a parallel decision in program planning. A major challenge for the WETEP staff will be to effectively and efficiently progress through the transition period from the present program in present facilities to the totally new program in new facilities.

The WETEP Space Facilities are designed to make possible optimum interdependence among the various elements of the system. Proximity requirements of importance to the respective instructional activities have been given priorities by the staff. The Learning Center is situated so as to serve as the primary point of student participation in the independent instructional activities. Clustered around the Learning Center are the spaces provided for the operations of the instructional elements, including appropriate laboratories, seminar rooms, conference rooms, and faculty offices.

Having less immediate physical proximity--but very close communication proximity--are the facilities for media preparation and utilization, program revision and development, information control and storage, computer services, research and assessment activities, and visitor accommodations.

An essential characteristic of the Space Facilities for WETEP is an excellent and thorough communications system. This system will, first, transmit a great deal of information to learners in settings both for individual and group activities. Second, it will transmit to learners and instructors information about the progress of learners, thus providing the basic management system for WETEP. Third, this system will provide an extensive information network between campus activities and cooperating schools. Fourth, it will provide an information network among staff members in instruction, in development and research, and in administration within the WETEP facilities. And finally, it will make possible a close working relationship with the many associated on-campus facilities.

Any attempt to project needs over a lifetime for a building is difficult. Because WETEP represents a feasibility study, space flexibility is essential. While not offering specific or detailed directions to an architect, this outline of space requirements is expected to foster a creative architectural concept.